

The primary goal of this proposal was to increase our understanding of the accretion dynamics and emission mechanisms in neutron-star low-mass x-ray binaries via accurate measurements of their broad-band x-ray spectrum with particular emphasis on the hard x-ray emission.

We obtained an extensive set of Rossi X-Ray Timing Explorer (RXTE) observations of a bright hard x-ray outburst from the source 4U1728-34 including data obtained under this proposal and previously scheduled observations for another observer. We have constructed x-ray light curves in several energy bands, including hard energy bands, from these data. We also completed spectral analysis of several observations which show strong hard x-ray emission. We are currently performing timing analysis to search for possible correlations between the spectral and timing evolution of 4U1728-34. Due to the one-year delay in obtaining the observations made for the other observer (which are the ones containing the peak of the hard X-ray emission), the analysis for this project is not yet complete. Because 4U1728-34 shows interesting high-frequency timing behavior, we plan to complete the analysis as part of our on-going investigation of high-frequency timing of X-ray binaries under LTSA award NAG5-7405.